

THE UNITED STATES DEPARTMENT OF ENERGY/NATIONAL NUCLEAR SECURITY
ADMINISTRATION IS CONDUCTING A FIVE-YEAR REVIEW OF THE GENERAL
SERVICES AREA, HIGH EXPLOSIVES PROCESS AREA, AND BUILDING 832 CANYON
OPERABLE UNITS AT LAWRENCE LIVERMORE NATIONAL LABORATORY'S
SITE 300

The U.S. Department of Energy (DOE) /National Nuclear Security Administration has initiated the second Five-Year Review of its environmental cleanup of the Southeast Corner General Services Area (GSA), High Explosives Process Area (HEPA), and Building 832 (B832) Canyon operable units (OUs), which are respectively known as OUs 1, 4, and 7, at Lawrence Livermore National Laboratory's Site 300.

THE REVIEW PROCESS

Superfund law requires that the protectiveness of cleanup actions be evaluated every five years when contaminants at a site remain above levels that allow unrestricted access. The purpose of the Five-Year Review is to evaluate the progress of the cleanup remedy toward achieving the Site's cleanup objectives, and whether the remedy continues to be protective of human health and the environment.

This Five-Year Review report will summarize the nature and extent of contamination, and describe the progress of cleanup, at the Southeast Corner (OUs 1, 4, and 7). The draft Five-Year Review report will be available for public review at the Laboratory's Environmental Repository in the Tracy Public Library, 20 East Eaton Avenue, Tracy, CA 95377, [telephone (209) 835-2221]; the Laboratory Office of Government and External Affairs [(925) 423-3125]; and an online document repository at <https://enviroinfo.llnl.gov/regulatory-materials> under CERCLA. The 60-day review period will begin on April 13, 2026.

La Ley Superfund exige que las acciones para restaurar sitios sean evaluadas cada cinco años mientras los contaminantes permanecen por encima de niveles que permiten el acceso sin restricciones al sitio identificado. El propósito de la Revisión Quinquenal es para evaluar el progreso hacia los objetivos establecidos para lograr la limpieza del sitio designado y si el remedio continúa protegiendo la salud humana y el medio ambiente.

El informe de la Revisión Quinquenal resume la naturaleza y el alcance de la contaminación y describe el progreso logrado por el Departamento de Energía hacia la limpieza de la esquina sudeste. El borrador del informe de la Revisión Quinquenal para las unidades operables de la esquina sudeste estará en el depósito ambiental del laboratorio localizado en la biblioteca pública de Tracy, 20 East Eaton Avenue, Tracy, CA 95377, [teléfono (209) 835-2221]; en el Oficina de Gobierno y Asuntos Exteriores del Laboratorio [teléfono (925) 423-3125]; y en línea en <https://enviroinfo.llnl.gov/regulatory-materials> under CERCLA. El período de revisión de 60 días comenzará el 13 de abril de 2026.

SITE HISTORY

LLNL's Site 300 is a U.S. DOE experimental test facility operated by Lawrence Livermore National Security, LLC. Site 300 is used for the research, development, and testing of high

explosives (HE) materials. Site 300 is located in the Altamont Hills between Livermore and Tracy, California. Site 300 was placed on the National Priorities List in 1992.

A Site-Wide Record of Decision was signed in 2008 and established the cleanup remedies and cleanup standards for OUs 1 through 8 at Site 300. Initially, specific Five-Year Reviews were performed for each OU. Five-Year Reviews for OU1 (GSA) were completed in 2006, 2011, and 2017. Five-Year Reviews for OU4 (HEPA) were completed in 2007, 2012, and 2017. Five-Year Reviews for OU7 (B832 Canyon) were completed in 2011 and 2017. Five-Year Reviews for the Site 300 OUs are now combined into three consolidated Five-Year Reviews. The first combined Five-Year Review for the Southeast Corner (OUs 1, 4, and 7) was completed in 2021.

The GSA OU (also called OU 1) covers approximately 0.11 square miles (mi²) and houses several craft shops, storage buildings, and offices that support the research being conducted at Site 300. The GSA OU was divided into the Central GSA and the Eastern GSA based on differences in hydrogeology and distribution of environmental contaminants. Evidence of a chemical release to groundwater in the GSA OU was first discovered in 1982 when trichloroethene (TCE) was detected in a former on-site water-supply well located in the Central GSA. This led to the discovery and investigation of several other chemical releases in the GSA OU, such as from former wastewater/rinsewater dry wells, a steam cleaning area, a decommissioned solvent drum rack, and a debris burial trench. A groundwater extraction and treatment system (GWTS), a soil vapor extraction and treatment system (SVTS), and a groundwater extraction and collection system are operating in the Central GSA to remediate volatile organic compounds (VOCs) in groundwater and soil vapor. A GWTS operated from 1991 to 2007 to remove VOCs from groundwater in the Eastern GSA, but has since been decommissioned due to the completion of groundwater cleanup in this area.

The HEPA OU covers approximately 1.4 mi² and contains facilities that have been in use since the late 1950s for the chemical formulation, mechanical pressing, and machining of HE compounds into shaped detonation devices. Eleven confirmed chemical release sites (source areas) to groundwater have been identified in the HEPA OU. These include eight unlined disposal lagoons, a drum rack/hard stand, a former dry well, and a former burn pit. The former drum rack/hard stand that was used to store and dispense TCE is considered to be the primary source of groundwater VOCs. The unlined disposal lagoons and the former dry well are considered the primary source areas of HE compounds and perchlorate. There are also multiple natural and anthropogenic sources of nitrate in the groundwater. Four GWTSs and two extraction and collection systems operate in the HEPA.

The B832 Canyon OU covers approximately 0.6 mi² and includes the release sites at Buildings 830 and 832, and any associated contamination released to environmental media. Starting in the late 1950s and early 1960s, facilities in these areas were used to test the stability of weapon components under various environmental conditions; testing was discontinued in 1985. VOCs, HE compounds, nitrate, and perchlorate from this testing are contaminants that have impacted environmental media in the B832 Canyon OU. Three GWTSs and two SVTSs are operating in the B832 Canyon OU.

CLEANUP OBJECTIVES AND REMEDIES

The selected remedy for the GSA OU (OU 1) includes: groundwater and soil vapor monitoring to evaluate the effectiveness of the remedy in achieving cleanup standards, and to ensure that there is no impact to downgradient water-supply wells; risk and hazard management to prevent on-site worker exposure to VOCs volatilizing from subsurface soil into indoor air; and the extraction and treatment of VOCs in soil vapor and groundwater to mitigate unacceptable VOC inhalation risk for on-site workers, prevent further impacts to groundwater and off-site plume mitigation, and reduce contaminant concentrations in soil and groundwater to cleanup standards.

The selected remedy for the HEPA OU (OU 4) includes: groundwater monitoring to evaluate the effectiveness of the remedy, to determine when cleanup standards are met, and to ensure there is no impact to downgradient water-supply wells; risk and hazard management to prevent on-site worker exposure to volatilizing VOCs from surface water until risk and hazard is mitigated through active remediation; and the extraction and treatment of VOCs, HE compounds, and perchlorate in groundwater to mitigate unacceptable VOC inhalation risk for on-site workers, prevent further impacts to groundwater and off-site plume migration, and reduce contaminant concentrations in groundwater to cleanup standards.

The selected remedy for the B832 Canyon OU (OU 7) includes: monitoring groundwater to evaluate the effectiveness of the remedy in achieving cleanup standards and to ensure there is no impact to downgradient water-supply wells; risk and hazard management to prevent on-site worker exposure to VOCs volatilizing from surface water until risk and hazard is mitigated through active remediation; the extraction and treatment of VOCs in soil vapor and groundwater, and perchlorate and nitrate in groundwater to mitigate unacceptable VOC inhalation risk for on-site workers, prevent further impacts to groundwater and off-site plume migration, and reduce contaminant concentrations in soil and groundwater to cleanup standards; monitored natural attenuation of nitrate in groundwater, and no further action for HMX (an HE compound) in surface and subsurface soil.

FIVE-YEAR REVIEW RESULTS

The results of the Five-Year Review analysis will be presented in the final version of the document after concurrence by the U.S. Environmental Protection Agency and DOE. The results of the analysis will define how the remedies are protective of human health and the environment and any additional actions necessary to ensure protection of human health and the environment.

FOR MORE INFORMATION:

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